CATALOG DOCUMENTATION
National Surface Water Survey: Lake Chemistry Survey
WLSDS4 (Western Lake Survey-Phase I)

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1. DATA SET IDENTIFICATION

1.1 Title of Catalog Document
WLSDS4_M

1.2 Authors of the Catalog Entry
U.S. EPA NHEERL Western Ecology Division
Corvallis, OR

1.3 Catalog Revision Date
May 1998

1.4 Data Set Name
WLSDS4

1.5 Task Group
National Acid Precipitation Assessment Program(NAPAP)-
Aquatic Effects Research Program

1.6 Data Set Identification Code
157

1.7 Version
001

1.8 Requested Acknowledgment
This research was funded as apart of the National Acid Precipitation Assessment Program (NAPAP) by the U.S. Environmental Protection Agency (EPA).
If you publish these data or use them for analyses in publications, EPA requires a standard statement for work it has supported:

"Although the data described in this article have been funded wholly or in part by the U.S. Environmental Protection Agency, it has not been subjected to Agency review, and therefore does not necessarily reflect the views of the Agency and no official endorsement of the conclusions should be inferred."

2. INVESTIGATOR INFORMATION

2.1 Principal Investigator
Dixon Landers
U.S. Environmental Protection Agency
NHEERL Western Ecology Division
200 S.W. 35th Street
Corvallis, OR 97333

2.2 Investigation Participant - Sample Collection
John Baker, Coordinator

3. DATA SET ABSTRACT

3.1 Abstract of the Data Set
The Western Lake Survey-Phase I (WLS-I), conducted in the fall of 1985, was the second part of a U.S. Environmental Protection Agency field sampling effort known as the National Surface Water Survey. The WLS-I followed the Eastern Lake Survey-Phase I, which was conducted in the fall of 1984 and included the northeastern, southeastern, and upper midwestern regions of the United States. Both surveys were designed to quantify synoptically the lake chemistry in and area of the United States where the majority of lakes were expected to exhibit low alkalinity. These surveys were conducted as part of the National Acid Precipitation Assessment Program.

3.2 Keywords for the Data Set
Aluminum, alkalinity, acid neutralizing capacity, calcium, dissolved inorganic carbon, dissolved organic carbon, chloride, color, specific conductance, iron, potassium, magnesium, manganese, ammonium, sodium, sulfate, nitrate, pH, total phosphorus, silica, turbidity, water chemistry

4. OBJECTIVES AND INTRODUCTION

4.1 Program Objective
The WLS-I had three primary objectives. (1) To determine the percentage (by number and area) and location of lakes that are acidic in potentially sensitive regions of the western United States, (2) to determine the percentage (by number and area) and location of lakes that have low acid neutralizing capacity in potentially sensitive regions of the western United States, and (3) to determine the chemical characteristics of lake populations in potentially sensitive regions of the western United States and provide the database for selecting lakes for further study.

4.2 Data Set Objective
This data set is part of the National Surface Water Survey (NSWS) and the National Acid Precipitation Assessment Program (NAPAP). The data set contributes to the quantification of the extent, location , and characteristics of sensitive and acidic lakes and streams in the western United States sampled during the fall season.

4.3 Data Set Background Discussion
Efforts to assess the impact of acid deposition on aquatic resources have previously been limited to single-factor indices. Acidification of surface waters, however, depends on the acid neutralizing capacity (ANC) generated both within the lake and its watershed. Hence, the response of an aquatic ecosystem to acidic deposition is a composite of many factors. Water chemistry in lakes is analyzed to understand the chemical habitat within which biota must exist so that we can understand the biological potential of the system.

4.4 Summary of Data Set Parameters
Water chemistry parameters are reported for one sample taken at the deepest part of the lake. These include: aluminum, alkalinity, acid neutralizing capacity, calcium, carbonate, color, specific conductance, dissolved inorganic carbon, dissolved organic carbon, bicarbonate, potassium, magnesium, ammonium, sodium, nitrate, total nitrogen, pH, total phosphorus, silica, total suspended solids, and turbidity. In addition to chemical characteristics of lakes, data were collected on lake characteristics, e.g. location, elevation, depth, area, etc.

5. DATA ACQUISITION AND PROCESSING METHODS

5.1 Data Acquisition

5.1.1 Sampling Objective
To obtain a single grab sample of lake water for the purposes of chemical analysis during the fall season, just after turnover, from the center and deepest part of the lake.

5.1.2 Sample Collection Methods Summary
A 6.2-L Van Dorn acrylic plastic sample bottle was filled from a depth of 1.5 m. Two 60-ml syringes and one 4-L polyethylene Cubitainer were filled from the Van Dorn bottle.

5.1.3 Sampling Start Date
September 10, 1985

5.1.4 Sampling End Date
November 4, 1985

5.1.5 Platform
Helicopter

5.1.6 Sampling Gear
A 6.2-L Van Dorn acrylic plastic sample bottle was filled from a depth of 1.5 m from the center of the lake. If site depth was (3.0 m and a clean (free from sediment, plants or other large particulate matter) sample could not be obtained at 1.5 m, a sample was collected at 0.5 m.

5.1.7 Manufacturer of Instruments
NA

5.1.8 Key Variables
NA

5.1.9 Sampling Method Calibration
NA

5.1.10 Sample Collection Quality Control
Landers, D.H., J.M. Eilers, D.F. Brakke, W.S. Overton, P.E. Kellar, M.E. Silverstein, R.D. Schonbrod, R.E. Crowe, R.A. Linthurst, J.M. Omernik, S.A. Teague, and E.P. Meier. Characteristics of Lakes in the Western United States. Volume I. Population Descriptions and Physico-Chemical Relationships. EPA/600/3-86/054a, U.S. Environmental Protection Agency, Washington, DC, 1987, 176 pp.

5.1.11 Sample Collection Method Reference
See Landers et al. (1987).

5.1.12 Sample Collection Method Deviations
NA

5.2 Data Preparation and Sample Processing

5.2.1 Sample Processing Objective
See Landers et al. (1987).

5.2.2 Sample Processing Methods Summary
See Landers et al. (1987).

5.2.3 Sample Processing Method Calibration
See Landers et al. (1987).

5.2.4 Sample Processing Quality Control
See Landers et al. (1987).

5.2.5 Sample Processing Method Reference
See Landers et al. (1987).

6. DATA MANIPULATIONS

6.1 Name of New or Modified Values
None.

6.2 Data Manipulation Description
See Landers et al. (1987).

7. DATA DESCRIPTION

7.1 Description of Parameters

#	Parameter SAS Name	Data Type	Len	Format	Parameter Label
128	ACCO11	Num	8		CO2 ACIDITY (UEQ/L)
129	ACCO11F	Char	12		FLAG FOR ***ACCO11
10	AIRTMP	Num	8		AIR TEMPERATURE (DEG C)
11	AIRTMPF	Char	12		FLAG FOR ***AIRTMP
106	ALEX11	Num	8		EXTRACTABLE ALUMINUM (UG/L)
107	ALEX11F	Char	12		FLAG FOR ***ALEX11
130	ALKA11	Num	8		ALKALINITY (UEQ/L)
131	ALKA11F	Char	12		FLAG FOR ***ALKA11
161	ALKANEW	Num	8		UPDATED ANC VALUES (1987)
45	ALK_CLSS	Char	1		ALKALINITY CLASS (1,2,3)
8	ALTIM	Num	8		ALTIMETER (FT)
140	ALTL11	Num	8		TOTAL ALUMINUM (UG/L)
141	ALTL11F	Char	12		FLAG FOR ***ALTL11
150	ANCAT	Num	8		CATSUM/ANSUM
78	ANDEF	Num	8		CATSUM - ANSUM (UEQ/L)
74	ANSUM	Num	8		SUM OF ANIONS (UEQ/L)
70	ANSUMF	Char	12		FLAG FOR ***ANSUM
30	BAT_ID	Char	6		BATCH ID
156	BEDROCK	Char	1		NORTON BEDROCK CLASSIFICATION
152	BNSTAR	Num	8		POPULATION SIZE BY STRATA
94	CA11	Num	8		CALCIUM (MG/L)
95	CA11F	Char	12		FLAG FOR ***CA11
81	CA16	Num	8		CALCIUM (UEQ/L)
75	CATSUM	Num	8		SUM OF CATIONS (UEQ/L)
71	CATSUMF	Char	12		FLAG FOR ***CATSUM
108	CL11	Num	8		CHLORIDE (MG/L)
109	CL11F	Char	12		FLAG FOR ***CL11
84	CL16	Num	8		CHLORIDE (UEQ/L)
82	CO316	Num	8		CARBONATE ALKALINITY (UEQ/L)
83	CO316F	Char	12		FLAG FOR ***CO316
64	COLVAL	Num	8		COLOR (PCU)
149	COLVALF	Char	12		FLAG FOR ***COLVAL
142	CONCAL	Num	8		CALCULATED SPECIFIC CONDUCTANCE (US/CM)
69	CONCALF	Char	14		FLAG FOR ***CONCAL
132	COND11	Num	8		CONDUCTANCE, ANALYTICAL LAB (US/CM)
133	COND11F	Char	12		FLAG FOR ***COND11
18	CONTOP	Num	8		CONDUCTANCE AT SURFACE (1.5M) (US/CM)
19	CONTOPF	Char	12		FLAG FOR ***CONTOP
27	CON_6O	Num	8		CONDUCTANCE AT 0.6O*SITE DEPTH (US/CM)
20	CON_B	Num	8		CONDUCTANCE AT BOTTOM-1.5M (US/CM)
51	COUNTY	Char	5		FIPS CODE (STATE, COUNTY)
32	CRW_ID	Char	6		CREW ID
6	DATSMP	Num	8	DATE	DATE SAMPLED (DDMMMYY), FORM 1

7.1 Description of Parameters, continued

#	Parameter SAS Name	Data Type	Len	Format	Parameter Label
134	DICE11	Num	8		EQUILIBRATED DIC, ANALYTICAL LAB (MG/L)
135	DICE11F	Char	12		FLAG FOR ***DICE11
136	DICI11	Num	8		INITIAL DIC, ANALYTICAL LAB (MG/L)
137	DICI11F	Char	12		FLAG FOR ***DICI11
59	DICVAL	Num	8		DIC, FIELD LAB (MG/L)
60	DICVALF	Char	12		FLAG FOR ***DICVAL
68	DISM	Num	8		DISTANCE FROM COAST (KM)
118	DOC11	Num	8		DOC, ANALYTICAL LAB (MG/L)
119	DOC11F	Char	12		FLAG FOR ***DOC11
25	DP_60	Num	8		DEPTH AT 0.6*SITE DEPTH (M)
15	DP_B	Num	8		DEPTH AT BOTTOM-1.5 M (M)
14	DP_TOP	Num	8		DEPTH AT SURFACE (1.5 M) (M)
39	ELEV	Num	8		LAKE ELEVATION (M)
144	FACE	Char	1		GEOMORPHIC SLOPE (E/W)
104	FE11	Num	8		IRON (UG/L)
105	FE11F	Char	12		FLAG FOR ***FE11
54	FOREST	Char	30		FOREST-NF PAR-NP NATREC-NRA
116	FTL11	Num	8		FLUORIDE (MG/L)
117	FTL11F	Char	12		FLAG FOR ***FTL11
90	FTL16	Num	8		FLUORIDE (UEQ/L)
143	GMU	Char	6		GEOMORPHIC UNIT
92	H16	Num	8		HYDRONIUM FROM PHAC (UEQ/L)
93	H16F	Char	12		FLAG FOR ***H16
79	HCO316	Num	8		BICARBONATE ALKALINITY (UEQ/L)
80	HCO316F	Char	12		FLAG FOR ***HCO316
3	HELGR	Char	1		H/HELICOPTER, G/GROUND TEAM
154	HYDROTYP	Char	9		DRAINAGE, SEEPAGE, CLOSED, RESERVOIR
40	IN_OUT	Char	6		PRESENCE/ABSENCE OF INLETS/OUTLETS
98	K11	Num	8		POTASSIUM (MG/L)
99	K11F	Char	12		FLAG FOR ***K11
87	K16	Num	8		POTASSIUM (UEQ/L)
56	LABNAM	Char	30		LABORATORY FOR ANALYSIS
36	LAKENAME	Char	30		LAKE NAME
1	LAKE_ID	Char	10		LAKE IDENTIFICATION CODE
35	LAKE_SIZ	Num	8		LAKE SURFACE AREA (HA)
65	LAKE_VOL	Num	8		CALCULATED LAKE VOLUME (10**6 CU M)
48	LAT	Char	10		LATITUDE
4	LATINS	Char	10		LORAN LATITUDE (DDMM.DM)
41	LAT_DD	Num	6		LATITUDE (DECIMAL DEGREES)
5	LNGINS	Char	10		LORAN LONGITUDE (DDDMM.DM)
49	LONG	Char	11		LONGITUDE
42	LONG_DD	Num	6		LONGITUDE (DECIMAL DEGREES)
46	MAP_BIG	Char	25		MAP NAME, 1:250,000 SCALE
157	MAP_MED	Char	35		MAP NAME, 1:100,000 SCALE
47	MAP_SML	Char	40		MAP NAME, 15 OR 7.5 QUAD
96	MG11	Num	8		MAGNESIUM (MG/L)
97	MG11F	Char	12		FLAG FOR ***MG11
85	MG16	Num	8		MAGNESIUM (UEQ/L)
102	MN11	Num	8		MANGANESE (UG/L)
103	MN11F	Char	12		FLAG FOR ***MN11
100	NA11	Num	8		SODIUM (MG/L)
101	NA11F	Char	12		FLAG FOR ***NA11
88	NA16	Num	8		SODIUM (UEQ/L)
2	NEWSR	Char	10		NEW SUBREGION CODE AS OF 2/25/88
120	NH411	Num	8		AMMONIUM (MG/L)
121	NH411F	Char	12		FLAG FOR ***NH411
91	NH416	Num	8		AMMONIUM (UEQ/L)
112	NO311	Num	8		NITRATE (MG/L)
113	NO311F	Char	12		FLAG FOR ***NO311

7.1 Description of Parameters, continued

#	Parameter SAS Name	Data Type	Len	Format	Parameter Label
86	NO316	Num	8		NITRATE (UEQ/L)
55	NUM_IO	Char	5		NUMBER OF INLETS/OUTLETS (MAP)
77	ORGION	Num	8		ORGANIC ANION (UEQ/L)
73	ORGIONF	Char	12		FLAG FOR ***ORGION
126	PHAC11	Num	8		PH, ACIDITY INITIAL
127	PHAC11F	Char	12		FLAG FOR ***PHAC11
124	PHAL11	Num	8		PH, ALKALINITY INITIAL
125	PHAL11F	Char	12		FLAG FOR ***PHAL11
122	PHEQ11	Num	8		PH, AIR EQUILIBRATED
123	PHEQ11F	Char	12		FLAG FOR ***PHEQ11
61	PHSTVL	Num	8		PH, FIELD VALUE
62	PHSTVLF	Char	12		FLAG FOR ***PHSTVL
28	PH_6O	Num	8		PH AT 0.6O*SITE DEPTH
34	PH_6OF	Char	12		FLAG FOR PH_6O***
23	PH_B	Num	8		PH AT BOTTOM-1.5M
33	PH_BF	Char	12		FLAG FOR PH_B***
21	PH_TOP	Num	8		PH AT SURFACE (1.5M)
22	PH_TOPF	Char	12		FLAG FOR ***PH_TOP
145	PRECIP	Num	8		ANNUAL PRECIPITATION (M/YR)
138	PTL11	Num	8		TOTAL PHOSPHORUS (UG/L)
139	PTL11F	Char	12		FLAG FOR ***PTL11
43	REGION	Char	1		NSWS REGION
147	REG_SPC	Char	12		/REG/SPC/LTM
146	RT	Num	8		RESIDENCE TIME (YR)
67	RUNIN	Num	8		SURFACE WATER RUNOFF (INCHES)
58	SAMCOD	Char	9		SAMPLE CODE
31	SAM_ID	Char	6		SAMPLE ID
57	SAM_IDF	Char	12		FLAG FOR ***SAM_ID
12	SECDIS	Num	8		SECCHI DISAPPEARANCE DEPTH (M)
151	SECMEAN	Num	8		SECCHI MEAN DEPTH (M)
13	SECREA	Num	8		SECCHI REAPPEARANCE DEPTH (M)
114	SIO211	Num	8		SILICA (MG/L)
115	SIO211F	Char	12		FLAG FOR ***SIO211
9	SITDPM	Num	8		SITE DEPTH (M)
110	SO411	Num	8		SULFATE (MG/L)
111	SO411F	Char	12		FLAG FOR ***SO411
89	SO416	Num	8		SULFATE (UEQ/L)
76	SOBC	Num	8		SUM OF BASE CATIONS (UEQ/L)
72	SOBCF	Char	12		FLAG FOR ***SOBC
37	ST	Char	2		STATE (TWO-LETTER ABBREVIATION)
160	STA_ID	Char	6		STATION ID
155	STRAT	Char	6		STRATIFICATON TYPE (MIXED, WEAK, STRONG)
50	STRATA	Char	3		NSWS STRATA
162	SUBREG	Char	7		REGION + SUB_RGN
44	SUB_RGN	Char	1		NSWS SUBREGION
7	TIMSMP	Num	8	TIME	TIME SAMPLED (HH:MM), FORM 1
24	TMPDF1	Num	8		TEMP DIFFERENCE TOP-BOTTOM (DEG C)
29	TMPDF2	Num	8		TEMP DIFFERENCE TOP-0.6*DEPTH (DEG C)
16	TMPTOP	Num	8		TEMPERATURE AT SURFACE (1.5M)
26	TMP_6O	Num	8		TEMPERATURE AT 0.6*SITE DEPTH (DEG C)
17	TMP_B	Num	8		TEMPERATURE AT BOTTOM-1.5 M (DEG C)
63	TURVAL	Num	8		TURBIDITY, FIELD LAB (NTU)
148	TURVALF	Char	12		FLAG FOR ***TURVAL
52	USFS	Char	1		FOREST SERVICE REGION (APPROX)
66	WALA	Num	8		WATERSHED AREA / LAKE AREA
153	WEIGHT1	Num	8		POPULATION EXTRAPOLATION FACTOR
53	WILDNA	Char	30		USFS WILDERNESS NAME
38	WSHED	Num	8		WATERSHED AREA (HA)

7.1 Description of Parameters, continued

#	Parameter SAS Name	Data Type	Len	Format	Parameter Label
159	WS_DIS	Char	8		D)WELL F)IRE L)OG M)INE R)OAD S)TOCK
158	WS_OTH	Char	25		OTHER DISTURBANCE

7.1.6 Precision to which values are reported

7.1.7 Minimum Value in Data Set

Name	Min
ACC011	-270.3
AIRTMP	-17
ALEX11	0
ALKA11	-24
ALKANEW	-24
ALTIM	20
ALTL11	0.7
ANCAT	0.7826
ANDEF	-337.1
ANSUM	14.62
BNSTAR	150
CA11	0.0865
CA16	4.316
CATSUM	18.38
CL11	0.023
CL16	0.649
CO316	0
COLVAL	0
CONCAL	2.16559467
COND11	1.6
CONTOP	-2
CON_6O	4
CON_B	-3
DATSMP	9384
DICE11	0.143
DICI11	0.307
DICVAL	0.266
DISM	1
DOC11	0.06
DP_6O	3.6
DP_B	1.5
DP_TOP	1.5
ELEV	10.673985971
FE11	0
FTL11	0
FTL16	0
H16	0
HCO316	2.63
K11	0.025
K16	0.639
LAKE_SIZ	1
LAKE_VOL	0.006
LAT_DD	36.092193604
LONG_DD	-105.06243896
MG11	0.022
MG16	1.81
MN11	0
NA11	0.023
NA16	1.001
NH411	0

7.1.7 Minimum Value in Data Set, continued

Name	Min
NH416	0
NO311	0
NO316	0
ORGION	0.5775886981
PHAC11	4.55
PHAL11	4.6
PHEQ11	4.65
PHSTVL	4.79
PH_6O	5.95
PH_B	4.5
PH_TOP	4.48
PRECIP	0.2032
PTL11	0
RT	0.0021694615
RUNIN	0.2
SECDIS	0.3
SECMEAN	0.25
SECREA	0.2
SIO211	0.035
SITDPM	0.5
SO411	0.011
SO416	0.229
SOBC	17.39825
TIMSMP	23040
TMPDF1	-20.6
TMPDF2	0
TMPTOP	0.3
TMP_6O	3.6
TMP_B	0.3
TURVAL	0
WALA	1.27
WEIGHT1	3.261
WSHED	5.18

7.1.7 Maximum Value in Data Set

Name	Max
ACCO11	380.8
AIRTMP	23
ALEX11	658.95
ALKA11	4948.6
ALKANEW	3795.2
ALTIM	12800
ALTL11	1119
ANCAT	2.1476
ANDEF	736.36
ANSUM	6967.79
BNSTAR	2317
CA11	95.302
CA16	4755.57
CATSUM	6696.22
CL11	72.732
CL16	2051.77
CO316	311.12
COLVAL	110
CONCAL	834.43326377
COND11	676
CONTOP	667
CON_6O	225

7.1.7 Maximum Value in Data Set, continued

Name	Max
CON_B	668
DATSMP	9439
DICE11	50.22
DICI11	61.83
DICVAL	86.72
DISM	149
DOC11	16.72
DP_60	42.2
DP_B	53.4
DP_TOP	1.5
ELEV	3912.7782861
FE11	974
FTL11	3.45
FTL16	181.608
H16	28.18
HCO316	3732.715
K11	19.65
K16	502.45
LAKE_SIZ	10010.7
LAKE_VOL	919.703
LAT_DD	48.987487793
LONG_DD	-123.78466797
MG11	17.884
MG16	1471.138
MN11	212
NA11	124.5
NA16	5415.75
NH411	0.2635
NH416	14.608
NO311	2.669
NO316	43.051
ORGION	167.01513605
PHAC11	9.565
PHAL11	9.605
PHEQ11	9.05
PHSTVL	9.815
PH_60	7.77
PH_B	9.69
PH_TOP	10.52
PRECIP	3.2512
PTL11	188.1
RT	18.688546384
RUNIN	120
SECDIS	28.5
SECMEAN	27.75
SECREA	27
SIO211	114.05
SITDPM	109.7
SO411	139.7245
SO416	2909.064
SOBC	6682.93721
TIMSMP	67800
TMPDF1	8.8
TMPDF2	20.3
TMPTOP	20.1
TMP_60	26.5
TMP_B	27.4
TURVAL	30
WALA	3332.45

7.1.7 Maximum Value in Data Set, continued

Name	Max
WEIGHT1	36.875
WSHED	291592.56

7.2 Data Record Example

7.2.1 Column Names for Example Records

```
ACC011 ACC011F AIRTMP AIRTMPF ALEX11 ALEX11F ALKA11 ALKA11F ALKANEW ALK_CLSS
ALTIM ALTL11 ALTL11F ANCAT ANDEF ANSUM ANSUMF BAT_ID BEDROCK BNSTAR CA11 CA11F
CA16 CATSUM CATSUMF CL11 CL11F CL16 CO316 CO316F COLVAL COLVALF CONCAL CONCALF
COND11 COND11F CONTOP CONTOPF CON_6O CON_B COUNTY CRW_ID DATSMP DICE11 DICE11F
DICI11 DICI11F DICVAL DICVALF DISM DOC11 DOC11F DP_6O DP_B DP_TOP ELEV FACE FE11
FE11F FOREST FTL11 FTL11F FTL16 GMU H16 H16F HCO316 HCO316F HELGR HYDROTYP
IN_OUT K11 K11F K16 LABNAM LAKENAME LAKE_ID LAKE_SIZ LAKE_VOL LAT LATINS LAT_DD
LNGINS LONG LONG_DD MAP_BIG MAP_MED MAP_SML MG11 MG11F MG16 MN11 MN11F NA11 NA11F
NA16 NEWSR NH411 NH411F NH416 NO311 NO311F NO316 NUM_IO ORGION ORGIONF PHAC11
PHAC11F PHAL11 PHAL11F PHEQ11 PHEQ11F PHSTVL PHSTVLF PH_6O PH_6OF PH_B PH_BF
PH_TOP PH_TOPF PRECIP PTL11 PTL11F REGION REG_SPC RT RUNIN SAMCOD SAM_ID SAM_IDF
SECDIS SECMEAN SECREA SIO211 SIO211F SITDPM SO411 SO411F SO416 SOBC SOBCF ST
STA_ID STRAT STRATA SUBREG SUB_RGN TIMSMP TMPDF1 TMPDF2 TMPTOP TMP_6O TMP_B
TURVAL TURVALF USFS WALA WEIGHT1 WILDNA WSHED WS_DIS WS_OTH
```

7.2.2 Example Data Records

```
55.8," ",15," ",2.2," ",317.5," ",318.1,"1",8250,43.9," ",1.2606,69.81,267.82,
"D3WO","1512","3",1885,2.373," ",118.413,337.63,"D3",0.142," ",4.006,0.312,"D3",
35," ",31.31709465,"D3WO",33.8," ",20," ",.,.,"06003","5754",03OCT85,3.57," ",
3.8," ",3.377," ",.,6.54," ",.,.,1.5,2702.0433059,"E",401," ","TOIYABE NF",0.0357,
" ",1.879,"SIERRA",0.09,"D3",259.846,"D3","H","DRAINAGE","NI/O",1.315," ",33.625,
"EMSI","NOBLE LAKE","4A1-001",1.7,0.021,"38-31'40'N","0383182",38.527770996,
"1194657","119-46'35'W",119.77636719,"WALKER LAKE","SMITH VALLEY","7.5'
EBBETTS PASS",1.41," ",115.987,21," ",1.584," ",68.904," ",0.011," ",0.61,0.051,
" ",0.823,"O/1",64.032321106,"D3",7.03,"D3",7.06,"D3",7.51," ",8.51," ",.," ",.,
" ",8.7," ",1.016,72.3," ","4","/REG",0.3476319191,20,"RH","06"," ",1.2,1.1,1,
9.218," ",2.7,0.046,"WO",0.958,336.92785," ","CA","15","MIXED","4A1","4A","A",
13:28,.,.,.,9.9,.,.,.,2.5," ","4",6.09,31.978,"ZZZ NOT IN USFS WILDERNESS ZZZ",10.36,
" "," "

27,"BOVO",0," ",1.5,"VO",164.2,"BOVO",167.7,"1",.,16.55,"VO",1.1083,16.43,151.77,
"D2VO","1522","3",1885,2.572,"VO",128.343,168.21,"D2VOZO",0.05,"VO",1.411,0.268,
"D2VO",0,"VO",16.81633444,"D2VOZO",17.1,"VO",.," ",.,.,.,"06109","0004",16OCT85,
1.979,"VO",1.9455,"BOVO",1.8885,"VO",.,0.635,"B5VO",.,13.7,1.5,2964.3183898,"W",
16,"VO","STANISLAUS NF",0.0076,"VO",0.4,"SIERRA",0.06,"D2VO",142.161,"D2VO","G",
"DRAINAGE","NI/O",0.068,"VO",1.739,"EMSI","LOST LAKE","4A1-003",4.1,0.289,
"38-13'49'N"," ",38.230255127," ","119-38'51'W",119.64746094,"WALKER LAKE",
"BRIDGEPORT","15' TOWER PEAK",0.215,"VO",17.686,0,"B5VOZO",0.4685,"VO",20.38,
" ",0,"VOZO",0,0.0025,"VO",0.04,"O/1",6.2505524634,"B5D2VO",7.225,"D2VO",7.24,
"D2VO",7.35,"D2VO",7.4,"VO",.," ",.," ",6.2,"WO",1.016,7.5,"VO","4","/REG",
0.3052456281,40,"RG","05"," ",4.3,4.15,4,0.313,"VO",15.2,0.36,"VO",7.495,
168.14721,"VO","CA","15","MIXED","4A1","4A","A",7:30,0,.,5,.,5,0.8,"VO","5",
22.74,31.978,"EMIGRANT WILDERNESS",93.24," "," "

34.5,"BO",8," ",4.5," ",16.4," ",16.2,"1",.,32.4," ",1.1793,4.34,24.2,"B2D2",
"1518","3",1885,0.181," ",9.032,28.53,"D2",0.124,"D2NO",3.498,0.002," ",0," ",
3.38225872,"B2D2",3.8," ",.," ",.,.,.,"06109","0006",11OCT85,0.451," ",0.402," ",
0.364," ",.,1.49,"D2NO",.,2,1.5,2695.9438853,"W",18," ","STANISLAUS NF",0.0076,
" ",0.4,"SIERRA",0.81," ",11.58," ","G","DRAINAGE","NI/O",0.126," ",3.222,
"EMSI","LEOPOLD LAKE","4A1-004",4.1,0.067,"38-10'39'N"," ",38.177490234," ",
"119-48'16'W",119.80444336,"WALKER LAKE","BRIDGEPORT","15' PINECREST",0.047,
" ",3.866,4," ",0.217,"D2",9.44," ",0.039," ",2.162,0.095,"B2D2NO",1.532,"O/1",
13.79282251,"D2",6.09," ",6.12," ",6.42," ",6.25," ",.," ",.," ",5.5,"WO",1.2192,
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7.2.2 Example Data Records, continued
2.2," ","4","/REG",0.3120734908,20,"RG","12"," ",3.5,3.5,.,1.098," ",3.5,0.345,
" ",7.183,25.55944,"D2","CA","15","MIXED","4A1","4A","A",11:30,0.2,.,7,.,6.8,
0.2," ","5",8.84,31.978,"EMIGRANT WILDERNESS",36.26," "," "

8. GEOGRAPHIC AND SPATIAL INFORMATION

8.1 Minimum Longitude
-123 Degrees 47 Minutes 05 Seconds (-123.78466797 Decimal Degrees)

8.2 Maximum Longitude
-105 Degrees 03 Minutes 45 Seconds (-105.06243896 Decimal Degrees)

8.3 Minimum Latitude
36 Degrees 05 Minutes 32 Seconds (36.092193604 Decimal Degrees)

8.4 Maximum Latitude
48 Degrees 59 Minutes 15 Seconds (48.98748779 Decimal Degrees)

8.5 Name of Area or Region
Pacific Northwest (Washington and Oregon), California (California and Nevada), Northern Rockies (Montana, Idaho, Washington and Oregon), Central Rockies (Utah, Wyoming, Montana, and Idaho), Southern Rockies (Wyoming, Colorado, and New Mexico).

9. QUALITY CONTROL / QUALITY ASSURANCE

9.1 Data Quality Objectives

9.2 Quality Assurance Procedures
See Landers et al. (1987).

9.3 Unassessed Errors
NA

10. DATA ACCESS

10.1 Data Access Procedures

10.2 Data Access Restrictions

10.3 Data Access Contact Persons

10.4 Data Set Format

10.5 Information Concerning Anonymous FTP

10.6 Information Concerning WWW

10.7 EMAP CD-ROM Containing the Data

11. REFERENCES

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12. TABLE OF ACRONYMS

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